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FIG. 1

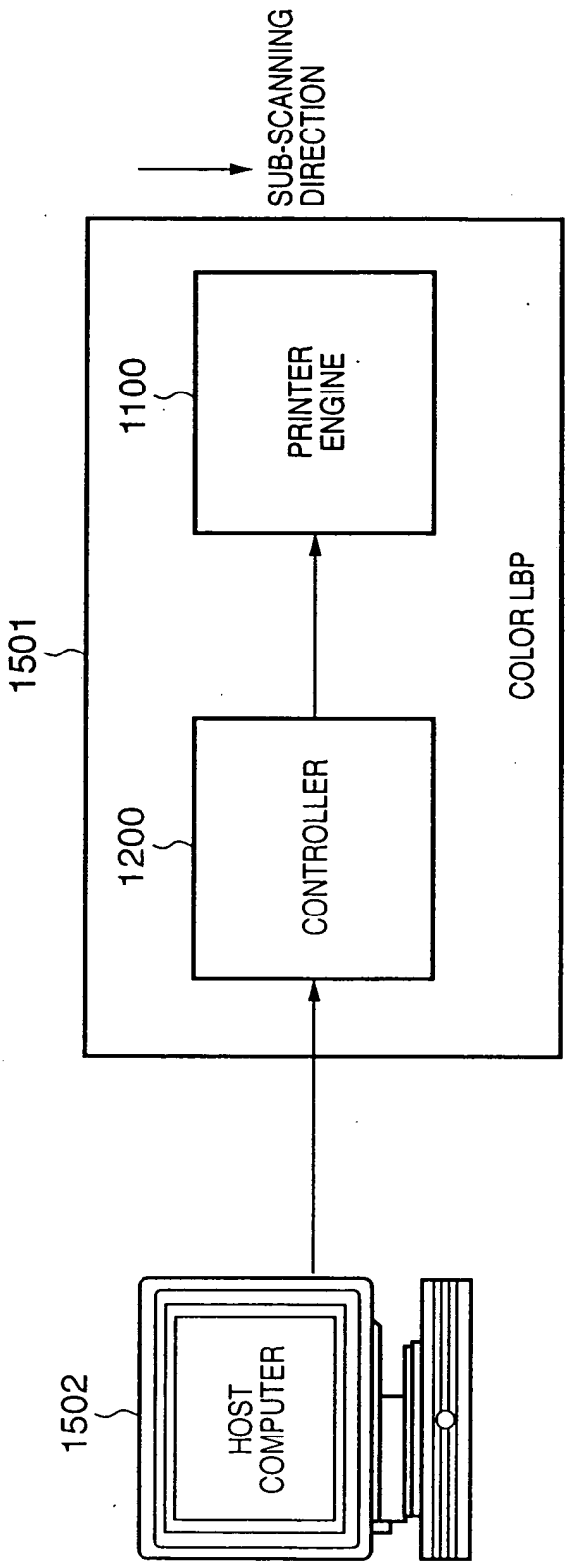

SUB-SCANNING DIRECTION
1100
PRINTER ENGINE
1501
COLOR LBP
1200
CONTROLLER
1502
HOST COMPUTER

FIG. 2

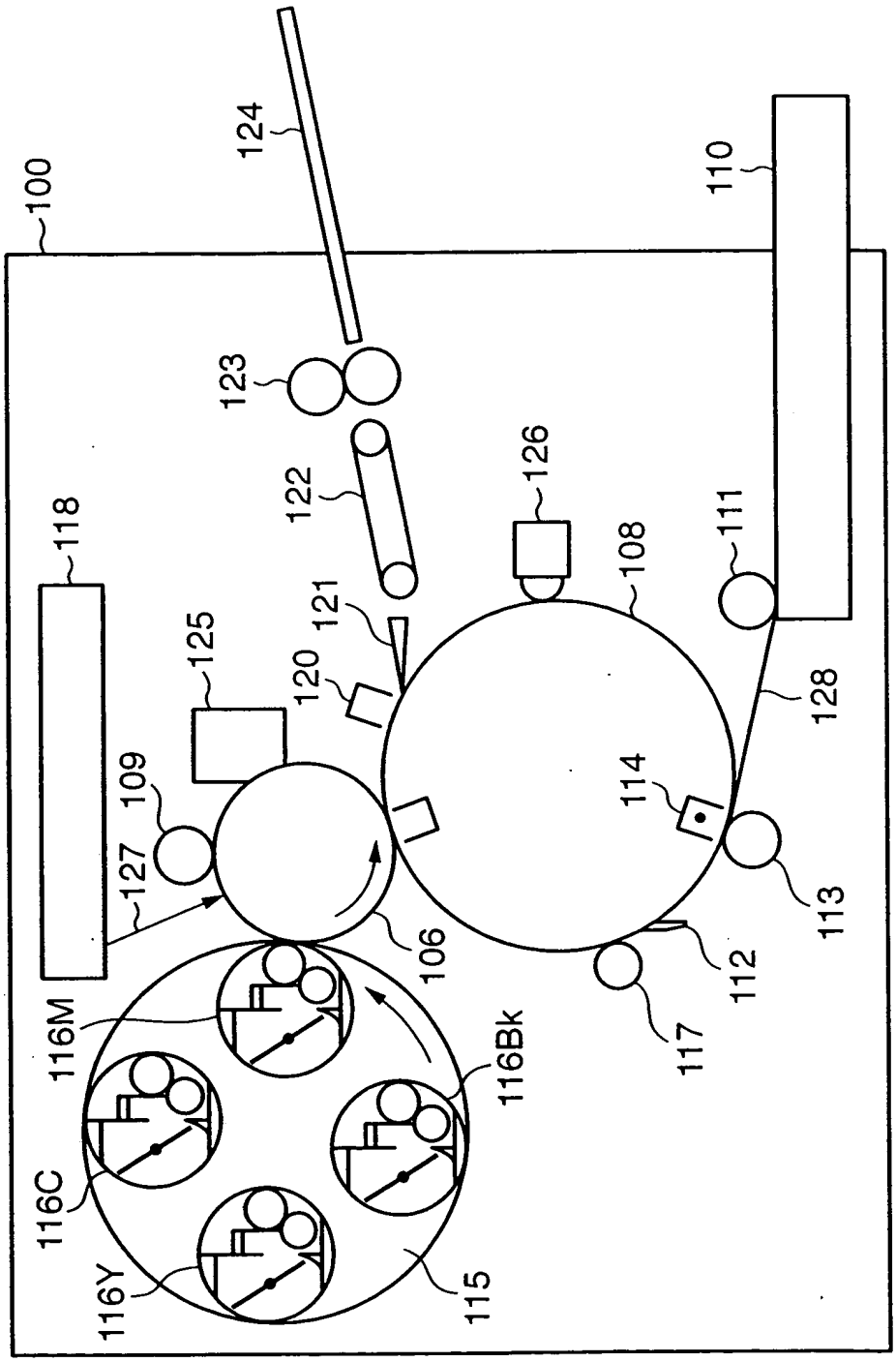

100
124
110
123
122
126
118
108
111
121
125
120
109
128
114
127
106
113
112
117
116M
116Bk
116C
116Y
115

FIG. 3

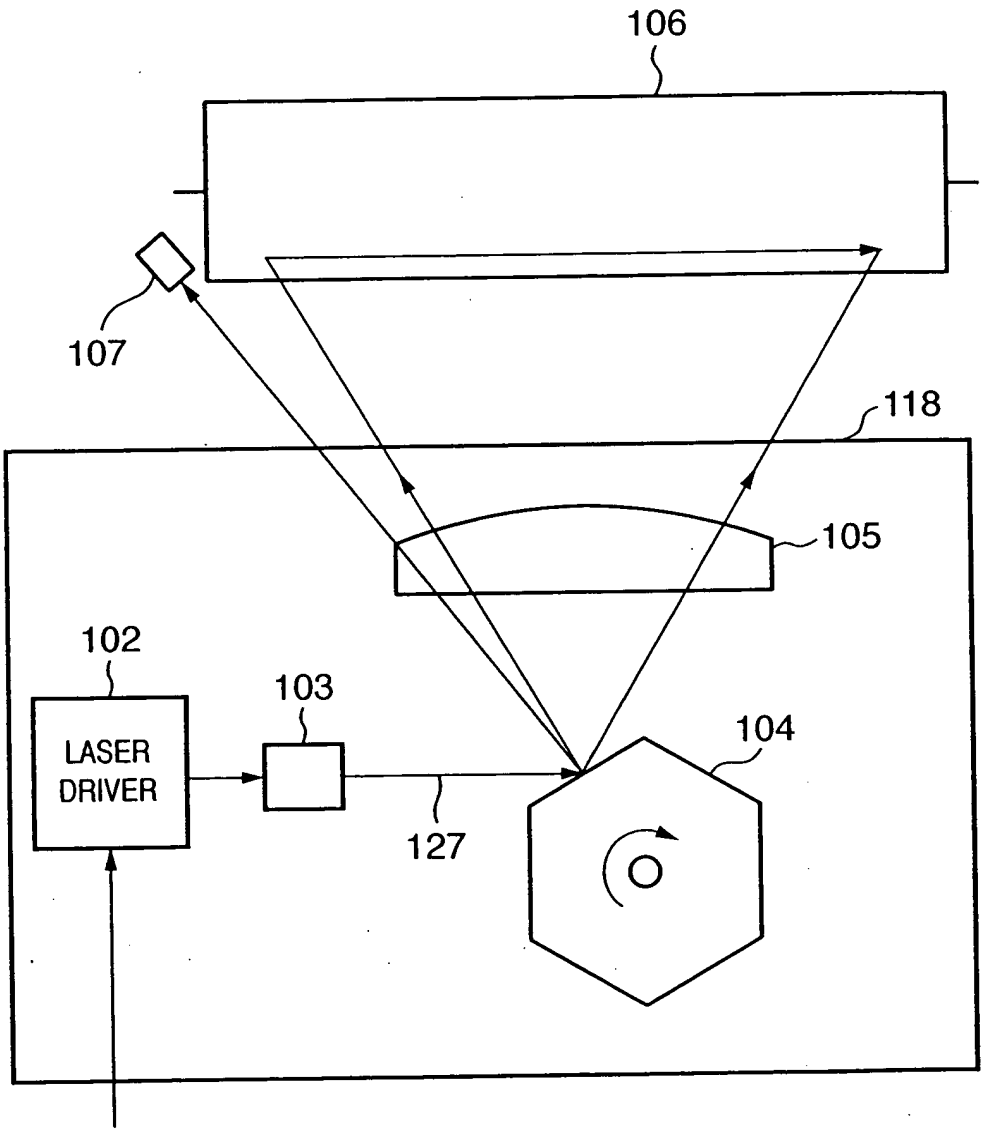


FIG. 4

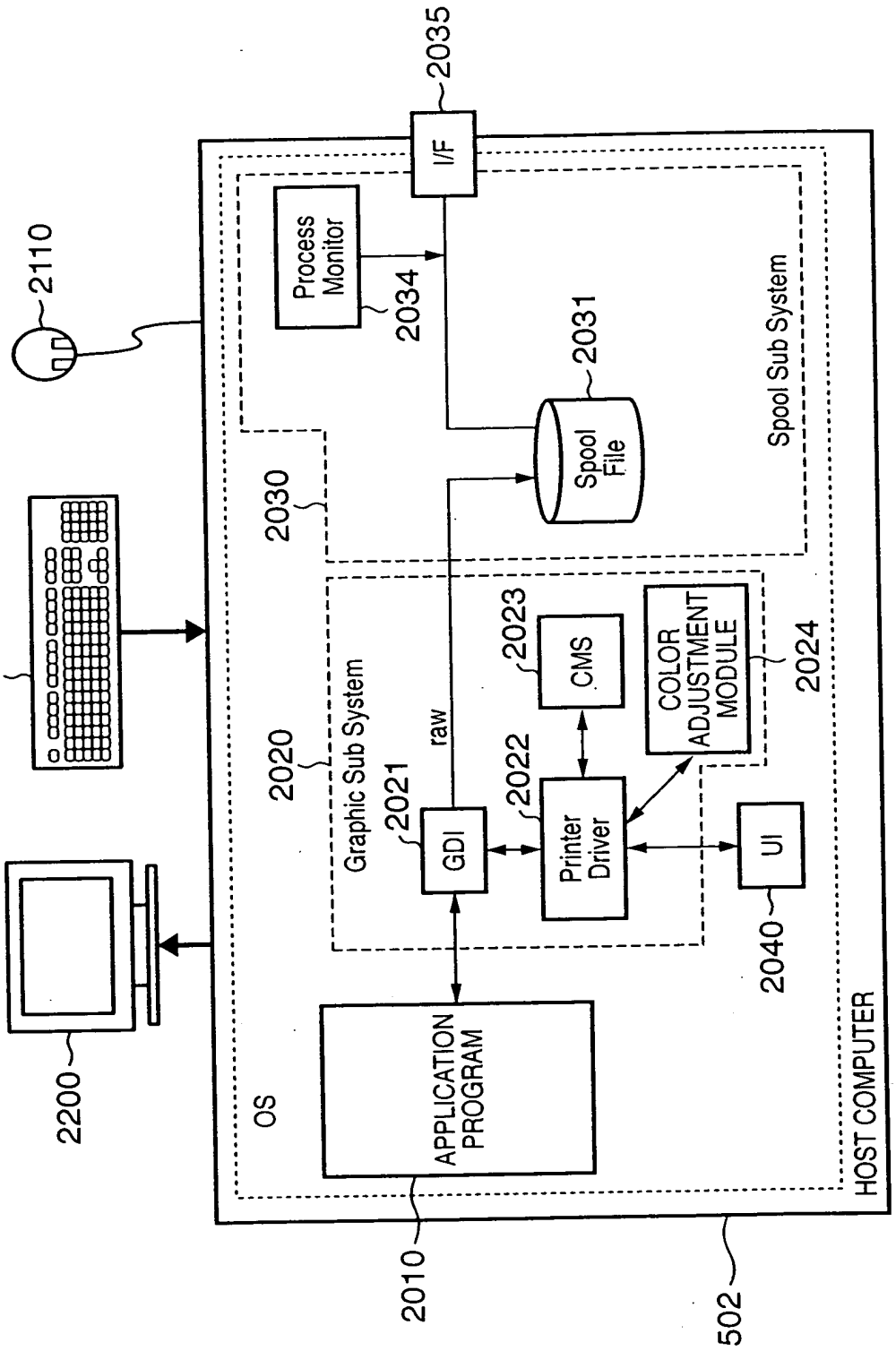

2035
I/F
2110
Process Monitor
2034
2031
Spool File
Spool Sub System
2030
2100
2020
Graphic Sub System
raw
2023
CMS
COLOR ADJUSTMENT MODULE
2024
2021
GDI
2022
Printer Driver
UI
2040
2200
OS
APPLICATION PROGRAM
HOST COMPUTER
2010
502

FIG. 5A

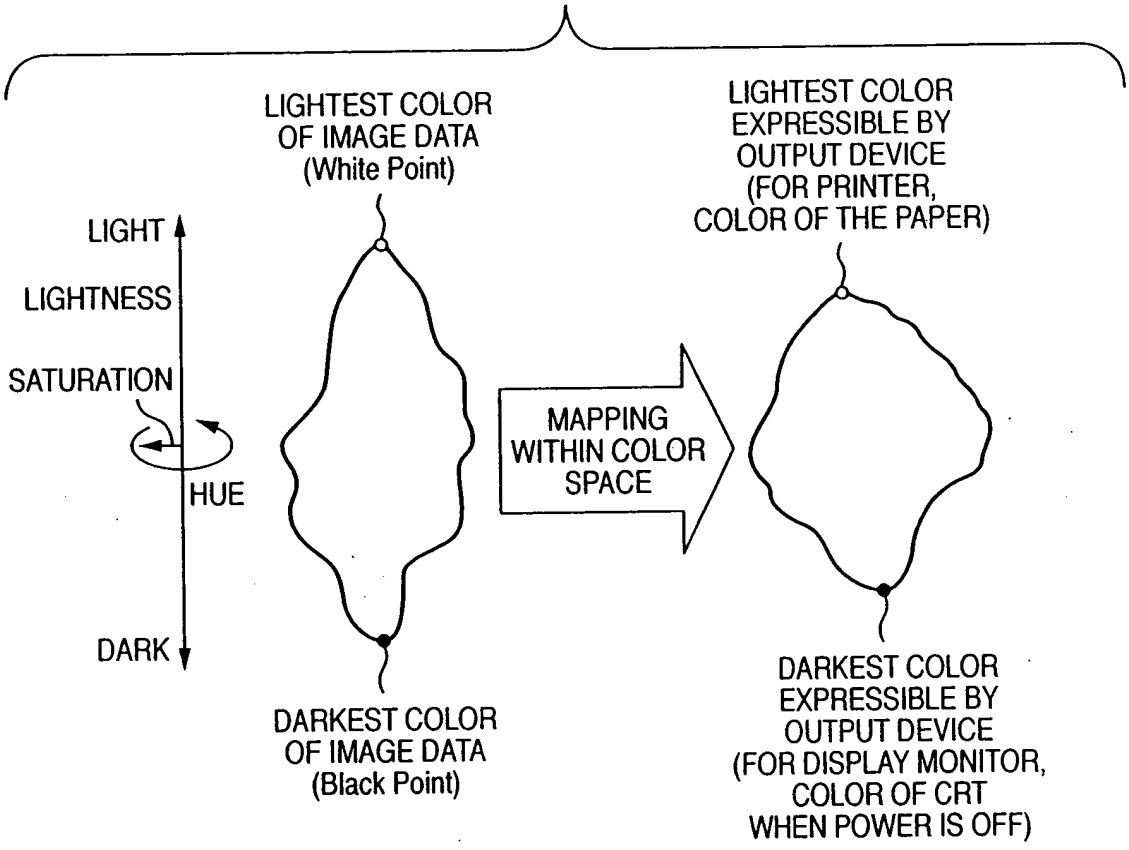
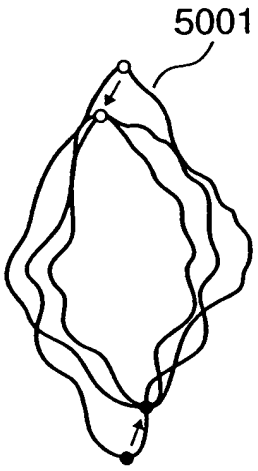
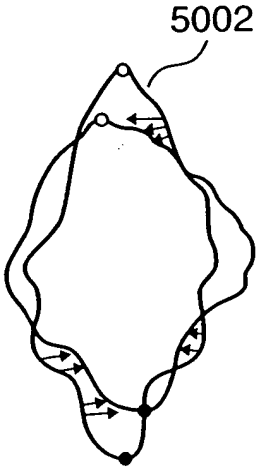


FIG. 5B



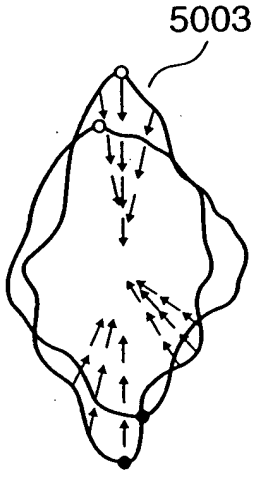
METHOD UTILIZING HUMAN PERCEPTION

FIG. 5C



METHOD SHARING OVERLAPPING PORTION

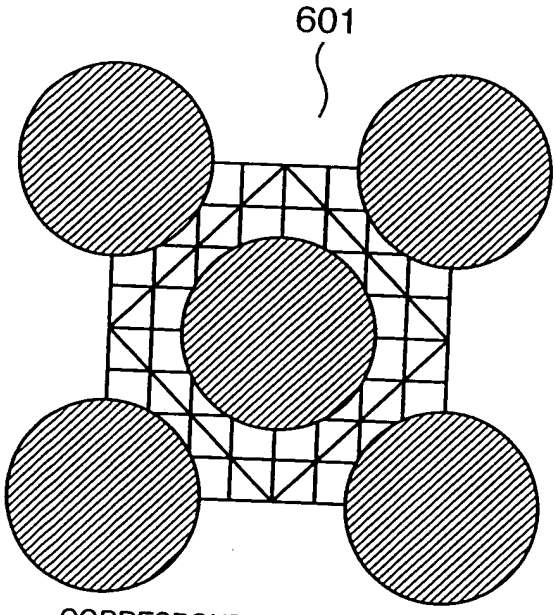
FIG. 5D



METHOD ATTEMPTING NOT TO CHANGE SATURATION

FIG. 6A

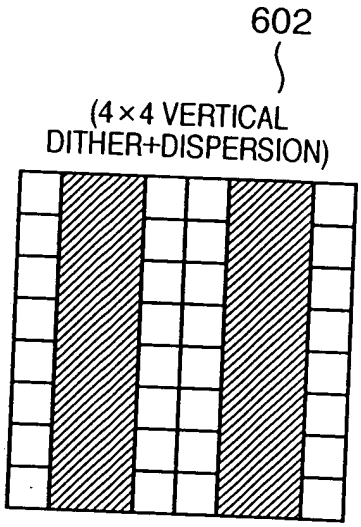
GRADATION DITHER



CORRESPONDING TO 107 LINES
(GENERAL 45° SCREEN)

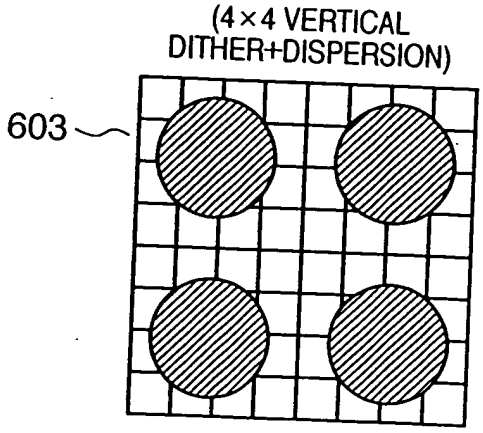
FIG. 6B

VERTICAL DITHER



CORRESPONDING TO 150 LINES

FIG. 6C



CORRESPONDING TO 150 LINES

FIG. 7

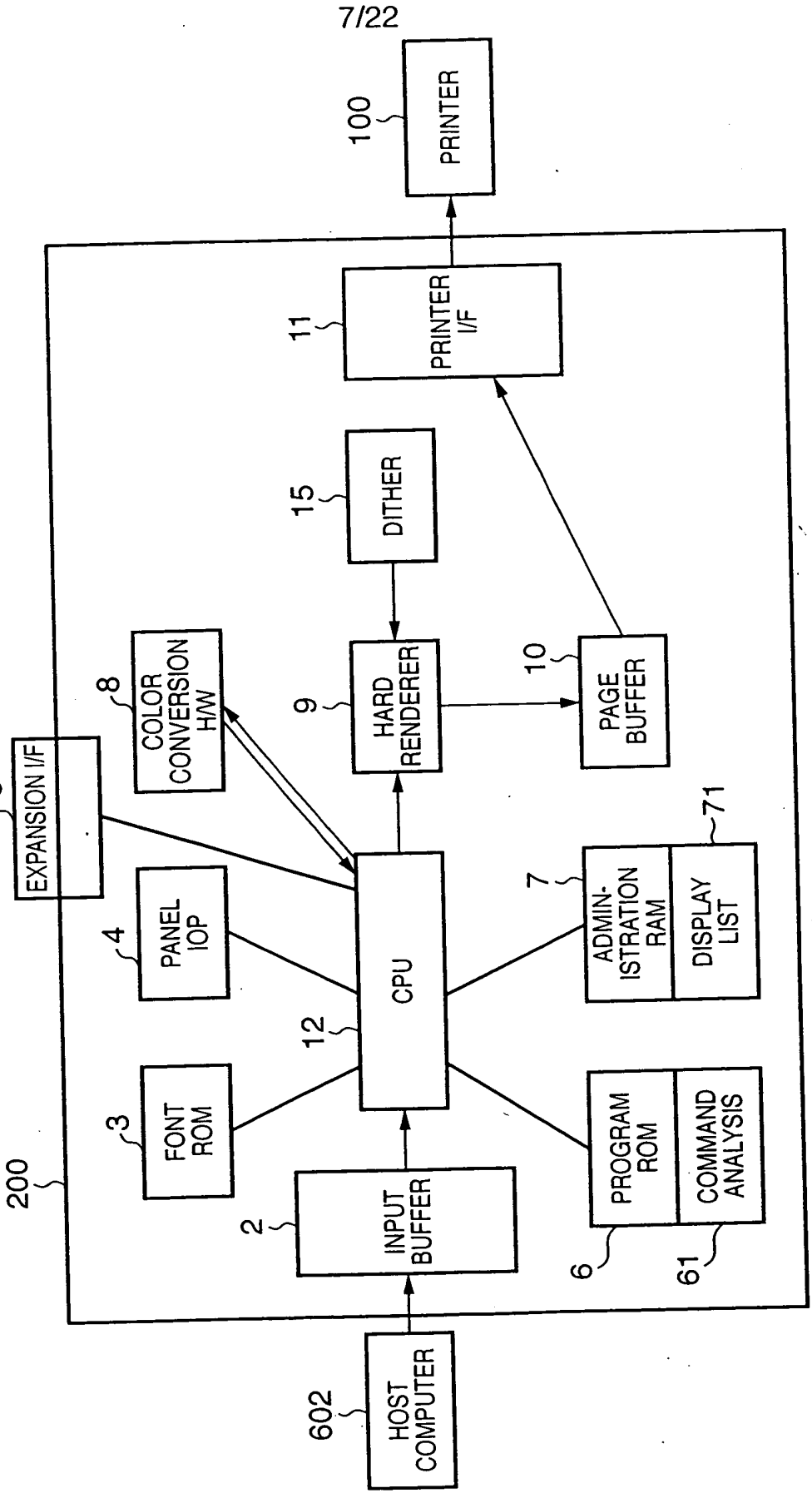

602
HOST COMPUTER
200
2
INPUT BUFFER
3
FONT ROM
4
PANEL IOP
5
EXPANSION I/F
6
PROGRAM ROM
61
COMMAND ANALYSIS
7
ADMIN-ISTRATION RAM
71
DISPLAY LIST
8
COLOR CONVERSION H/W
9
HARD RENDERER
10
PAGE BUFFER
11
PRINTER I/F
12
CPU
15
DITHER
100
PRINTER

FIG. 8

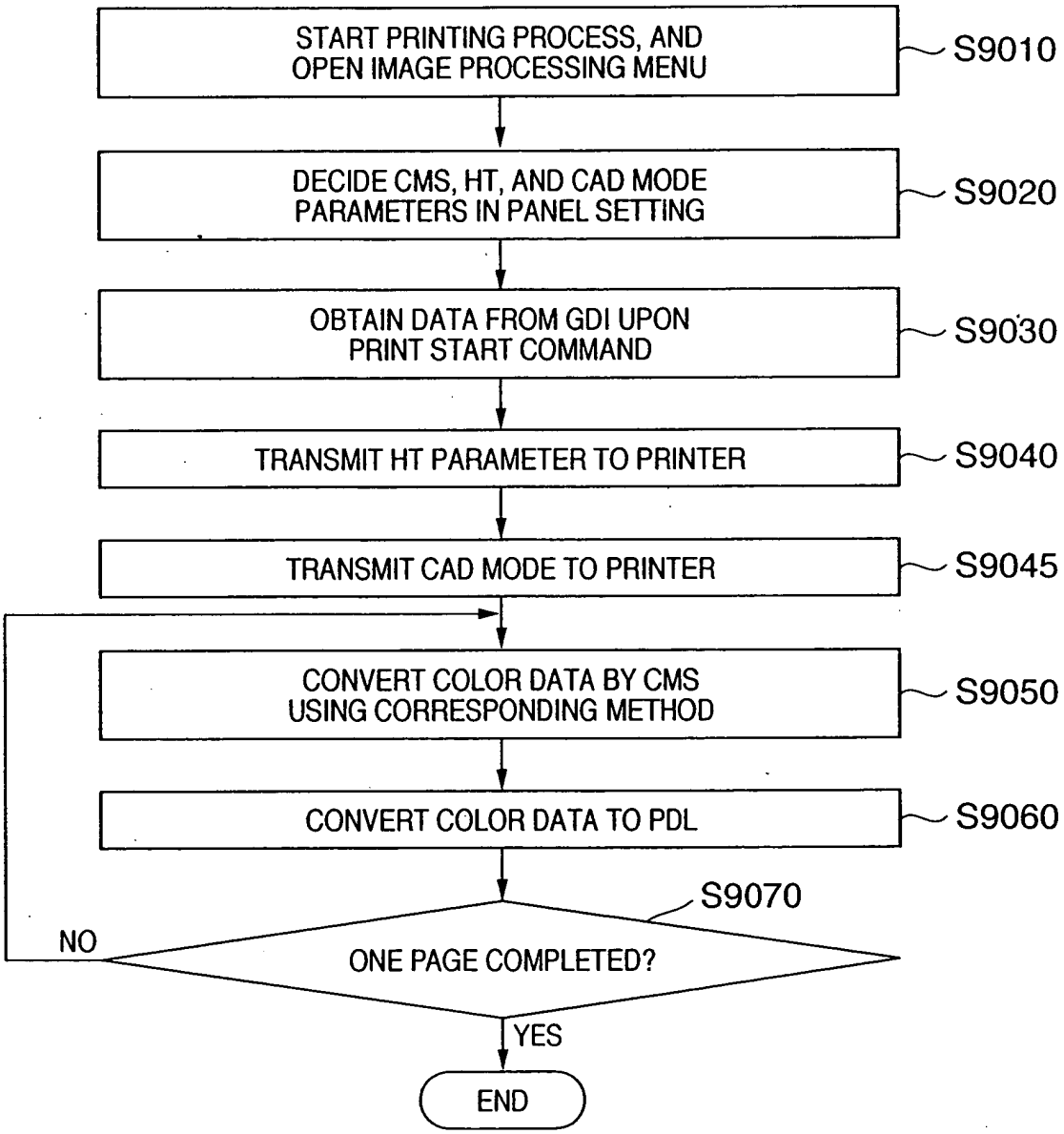

START PRINTING PROCESS, AND OPEN IMAGE PROCESSING MENU
S9010
DECIDE CMS, HT, AND CAD MODE PARAMETERS IN PANEL SETTING
S9020
OBTAIN DATA FROM GDI UPON PRINT START COMMAND
S9030
TRANSMIT HT PARAMETER TO PRINTER
S9040
TRANSMIT CAD MODE TO PRINTER
S9045
CONVERT COLOR DATA BY CMS USING CORRESPONDING METHOD
S9050
CONVERT COLOR DATA TO PDL
S9060
S9070
ONE PAGE COMPLETED?
NO
YES
END

FIG. 9A

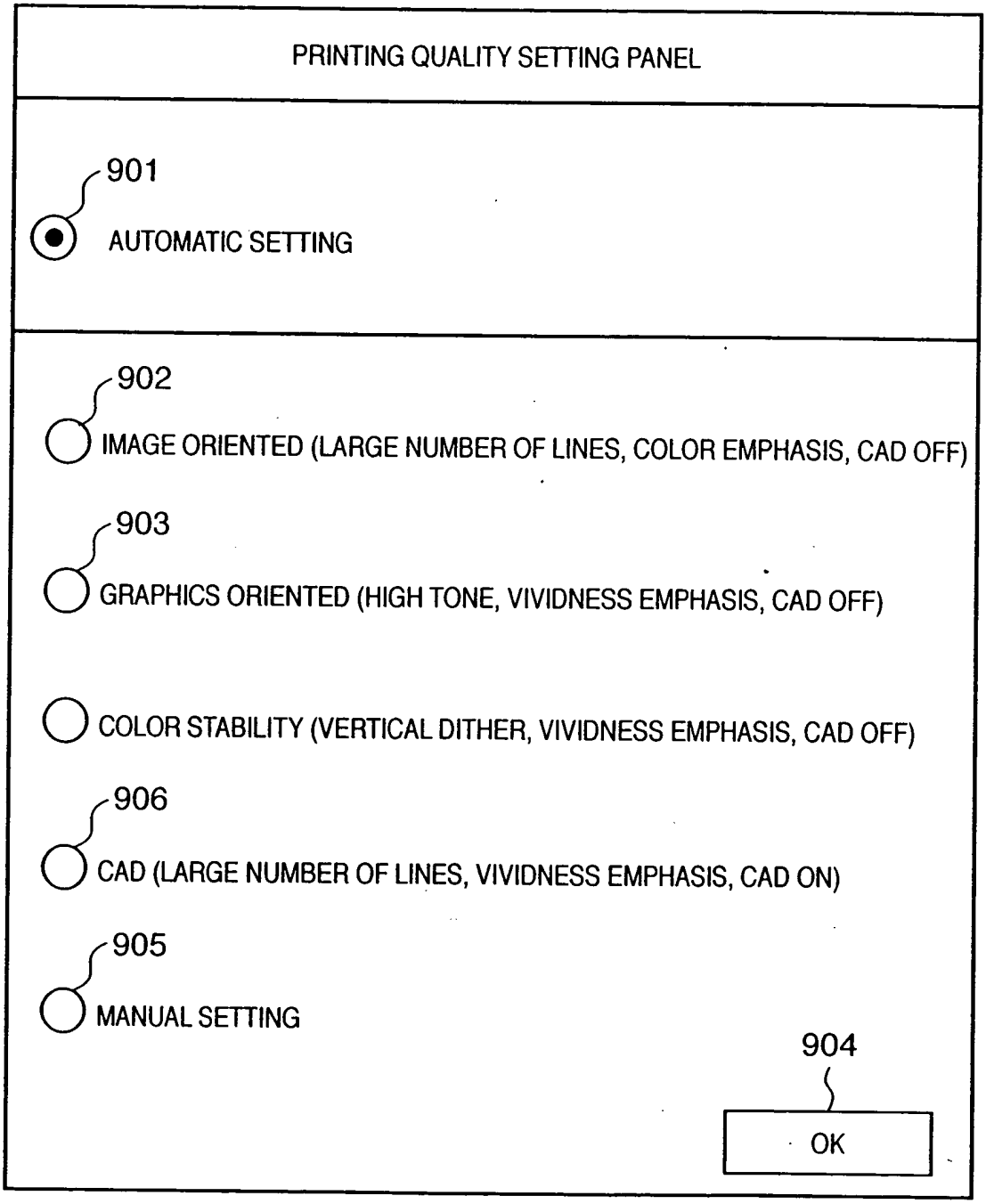

PRINTING QUALITY SETTING PANEL
901
AUTOMATIC SETTING
902
IMAGE ORIENTED (LARGE NUMBER OF LINES, COLOR EMPHASIS, CAD OFF)
903
GRAPHICS ORIENTED (HIGH TONE, VIVIDNESS EMPHASIS, CAD OFF)
COLOR STABILITY (VERTICAL DITHER, VIVIDNESS EMPHASIS, CAD OFF)
906
CAD (LARGE NUMBER OF LINES, VIVIDNESS EMPHASIS, CAD ON)
905
MANUAL SETTING
904
OK

FIG. 9B

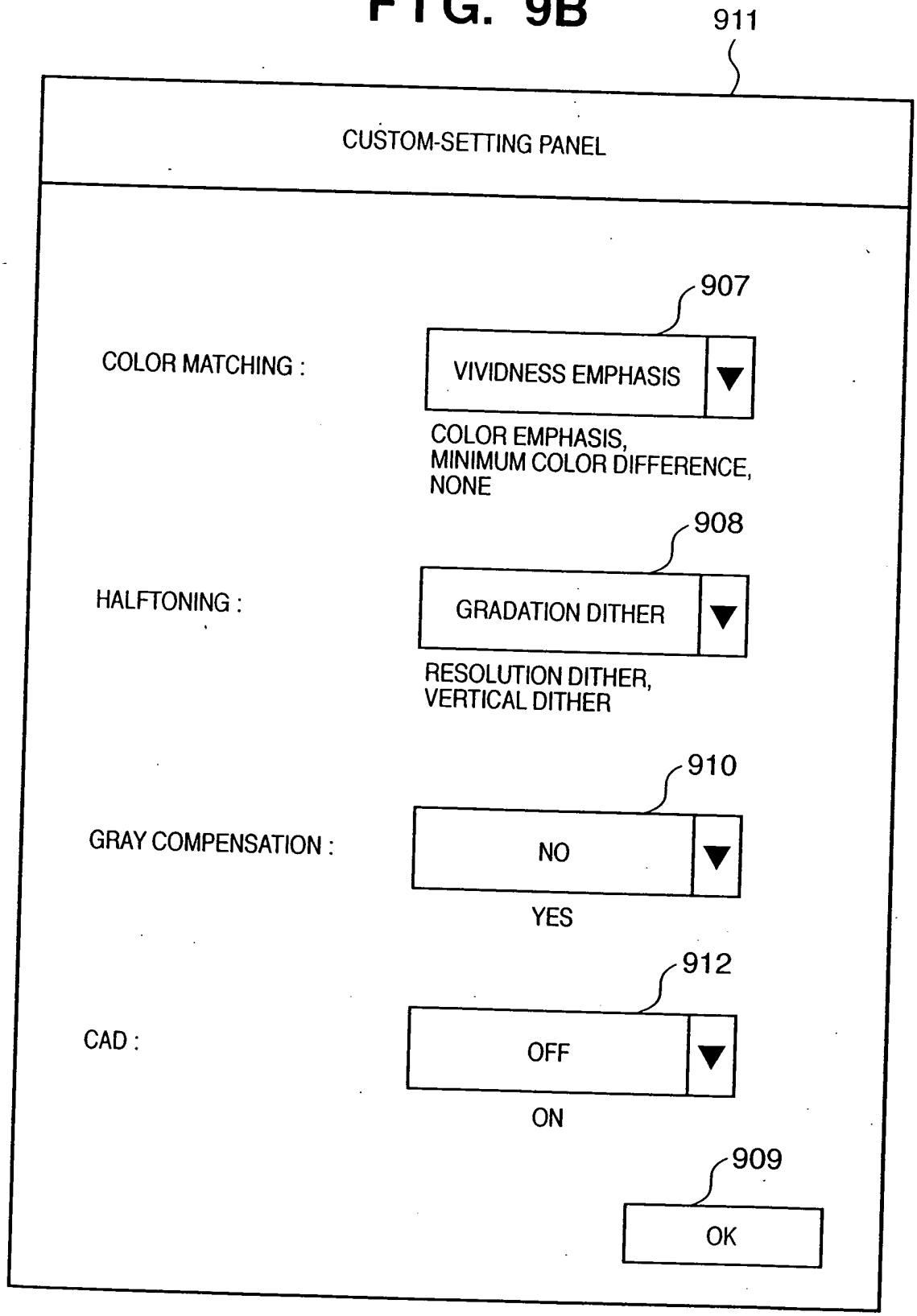

911
CUSTOM-SETTING PANEL
907
COLOR MATCHING :
VIVIDNESS EMPHASIS
COLOR EMPHASIS,
MINIMUM COLOR DIFFERENCE,
NONE
908
HALFTONING :
GRADATION DITHER
RESOLUTION DITHER,
VERTICAL DITHER
910
GRAY COMPENSATION :
NO
YES
912
CAD :
OFF
ON
909
OK

FIG. 10

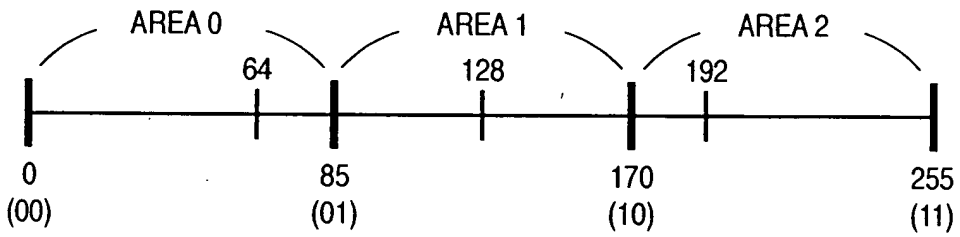


FIG. 11

180	60	100	125
166	130	60	115
128	190	90	203
106	80	87	77

INPUT DATA

FIG. 12

74	53	32	80
23	5	11	58
45	21	16	37
55	43	64	85

FIG. 13A

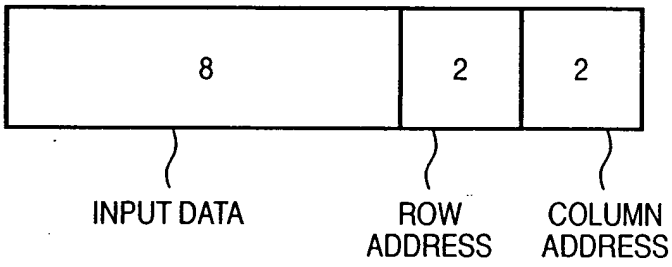


FIG. 13B

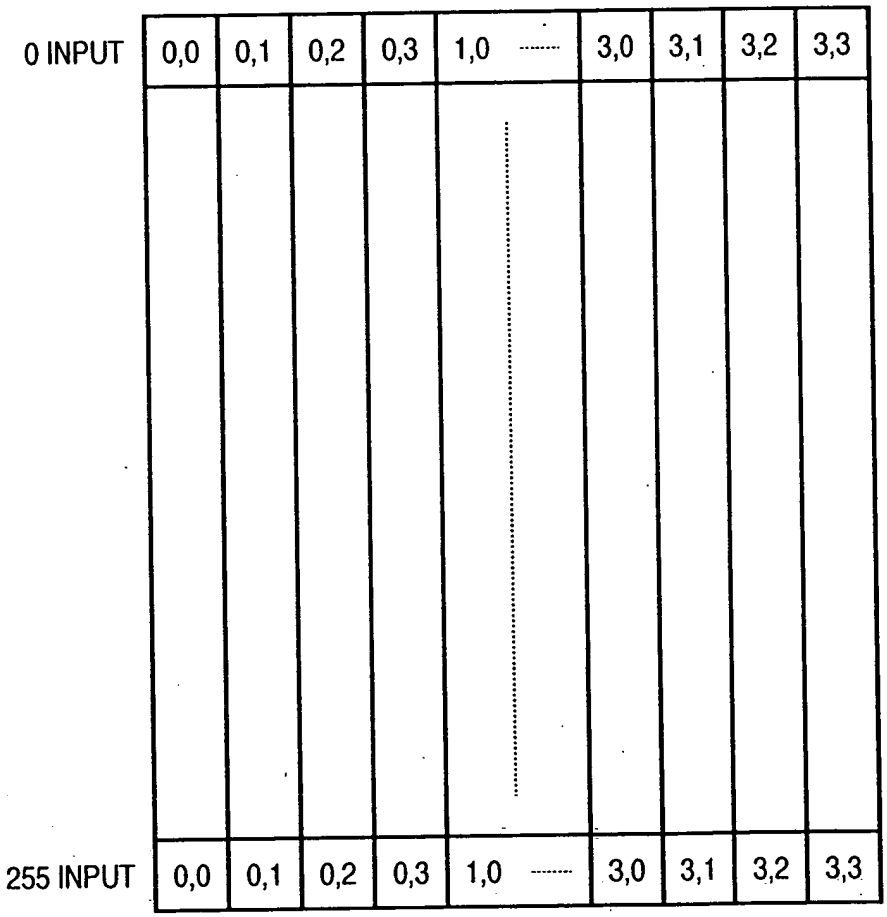

0 INPUT
0,0
0,1
0,2
0,3
1,0
3,0
3,1
3,2
3,3
255 INPUT
0,0
0,1
0,2
0,3
1,0
3,0
3,1
3,2
3,3

FIG. 14

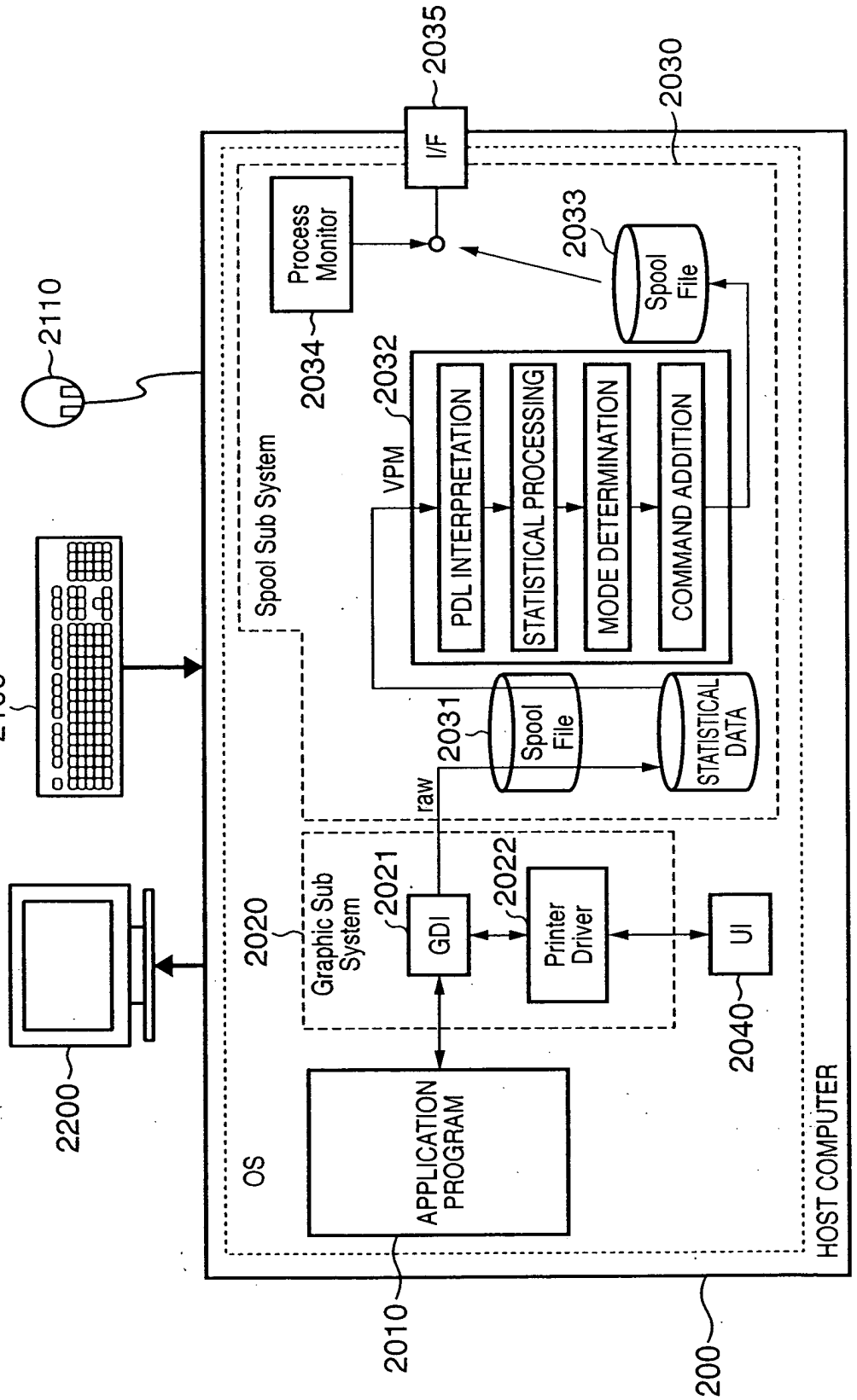

HOST COMPUTER
200
OS
2010
APPLICATION PROGRAM
Graphic Sub System
2020
GDI
2021
Printer Driver
2022
UI
2040
raw
Spool Sub System
2031
Spool File
STATISTICAL DATA
VPM
2032
PDL INTERPRETATION
STATISTICAL PROCESSING
MODE DETERMINATION
COMMAND ADDITION
Process Monitor
2034
Spool File
2033
I/F
2035
2030
2110
2100
2200

FIG. 15

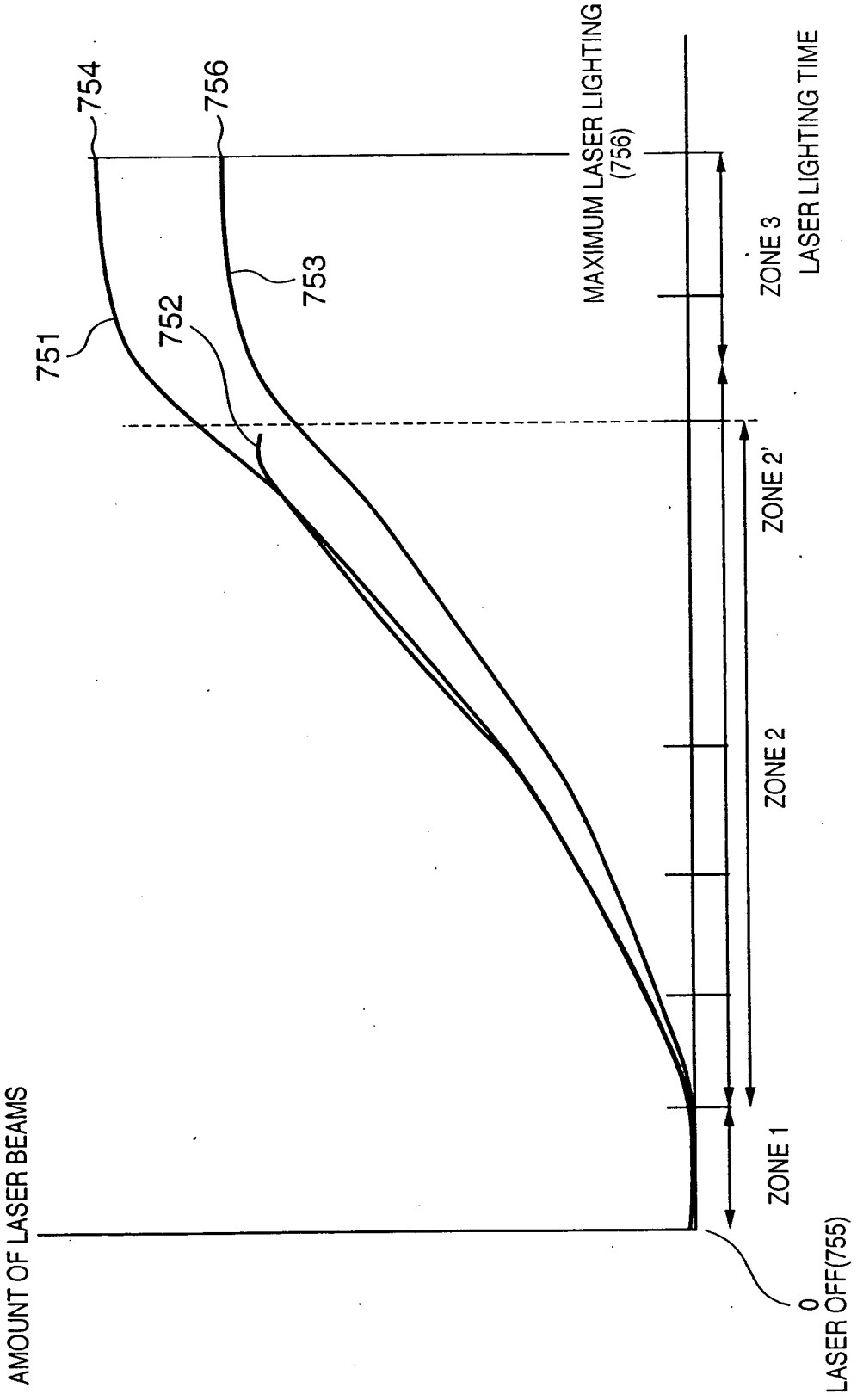

AMOUNT OF LASER BEAMS
LASER OFF(755)
0
751
752
753
754
756
MAXIMUM LASER LIGHTING
(756)
ZONE 1
ZONE 2
ZONE 2'
ZONE 3
LASER LIGHTING TIME

FIG. 16A

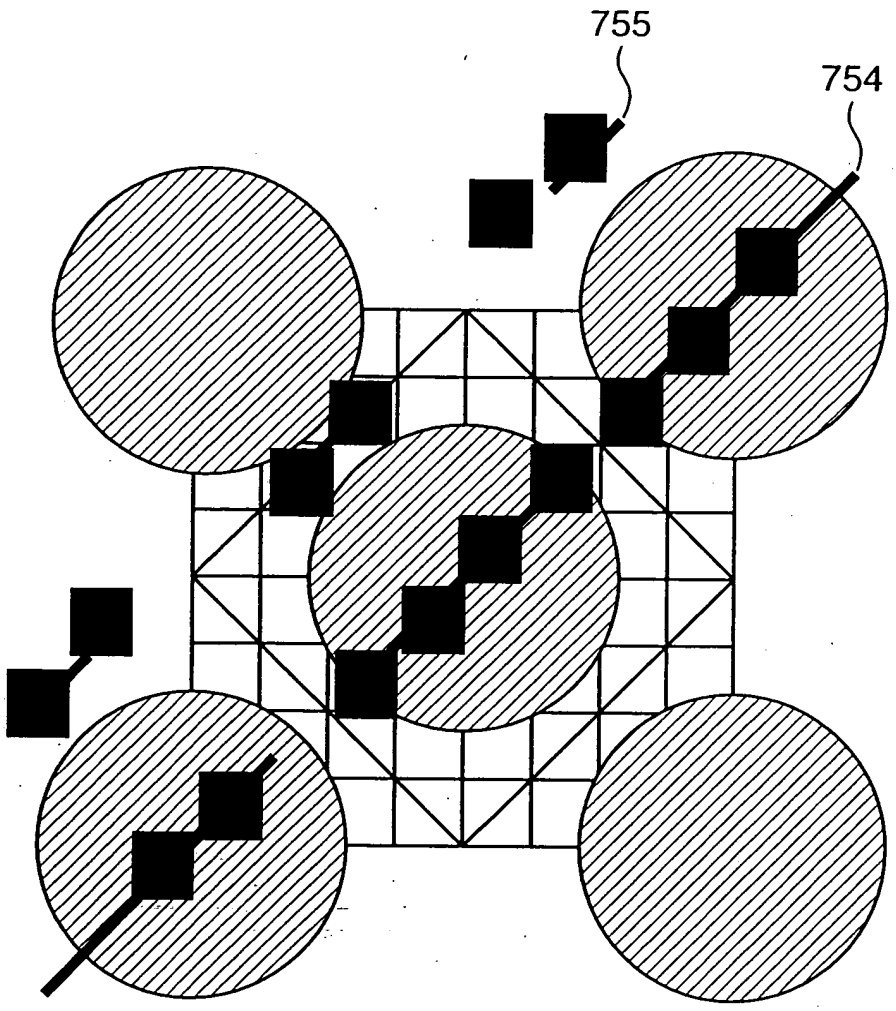


FIG. 16B

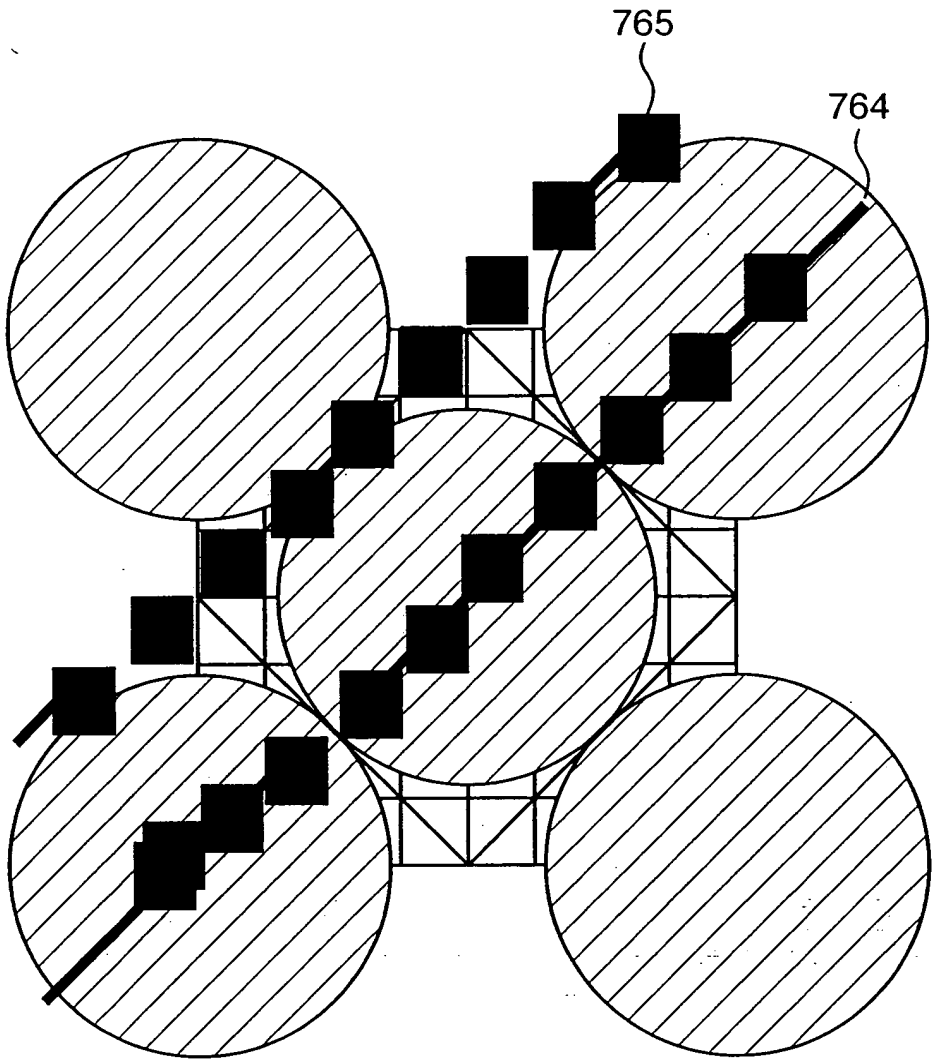


FIG. 17A

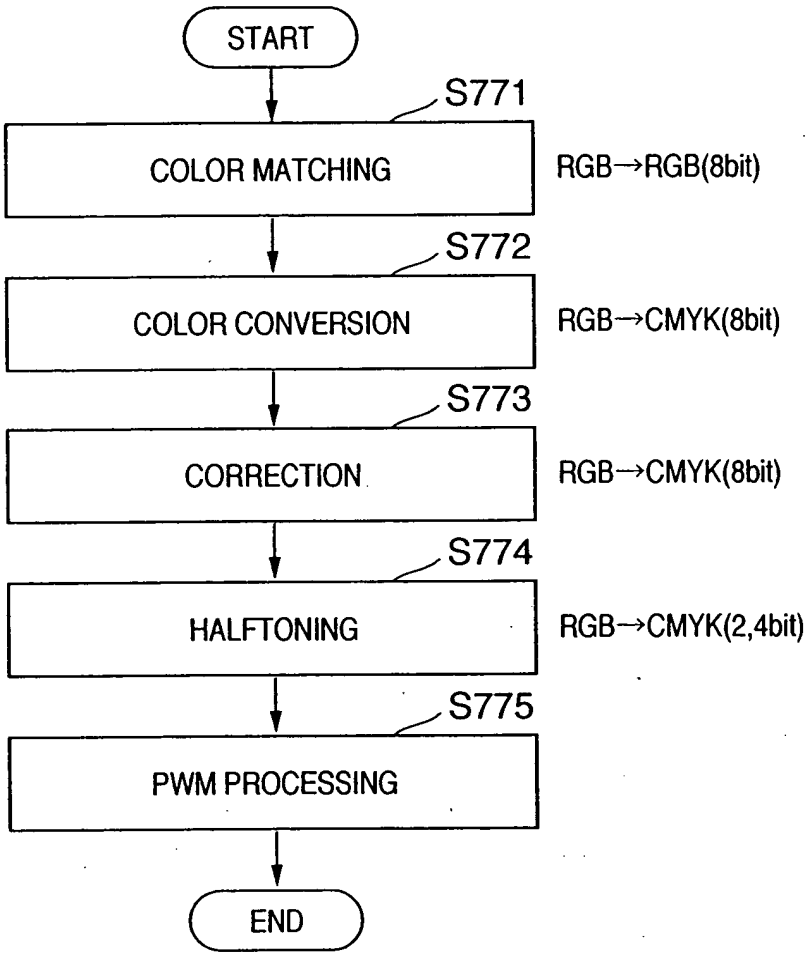

START
S771
COLOR MATCHING
RGB→RGB(8bit)
S772
COLOR CONVERSION
RGB→CMYK(8bit)
S773
CORRECTION
RGB→CMYK(8bit)
S774
HALFTONING
RGB→CMYK(2,4bit)
S775
PWM PROCESSING
END

FIG. 17B

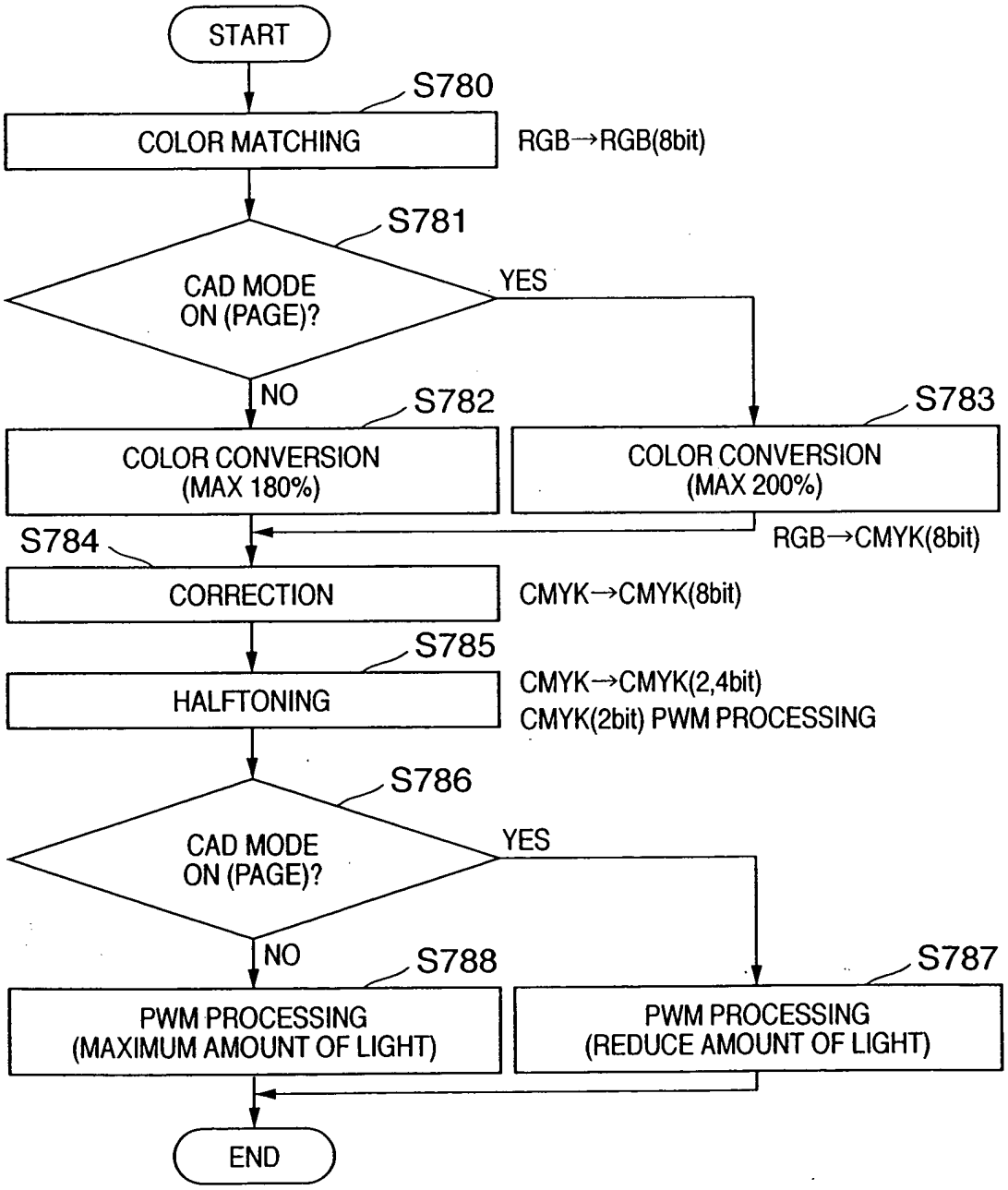
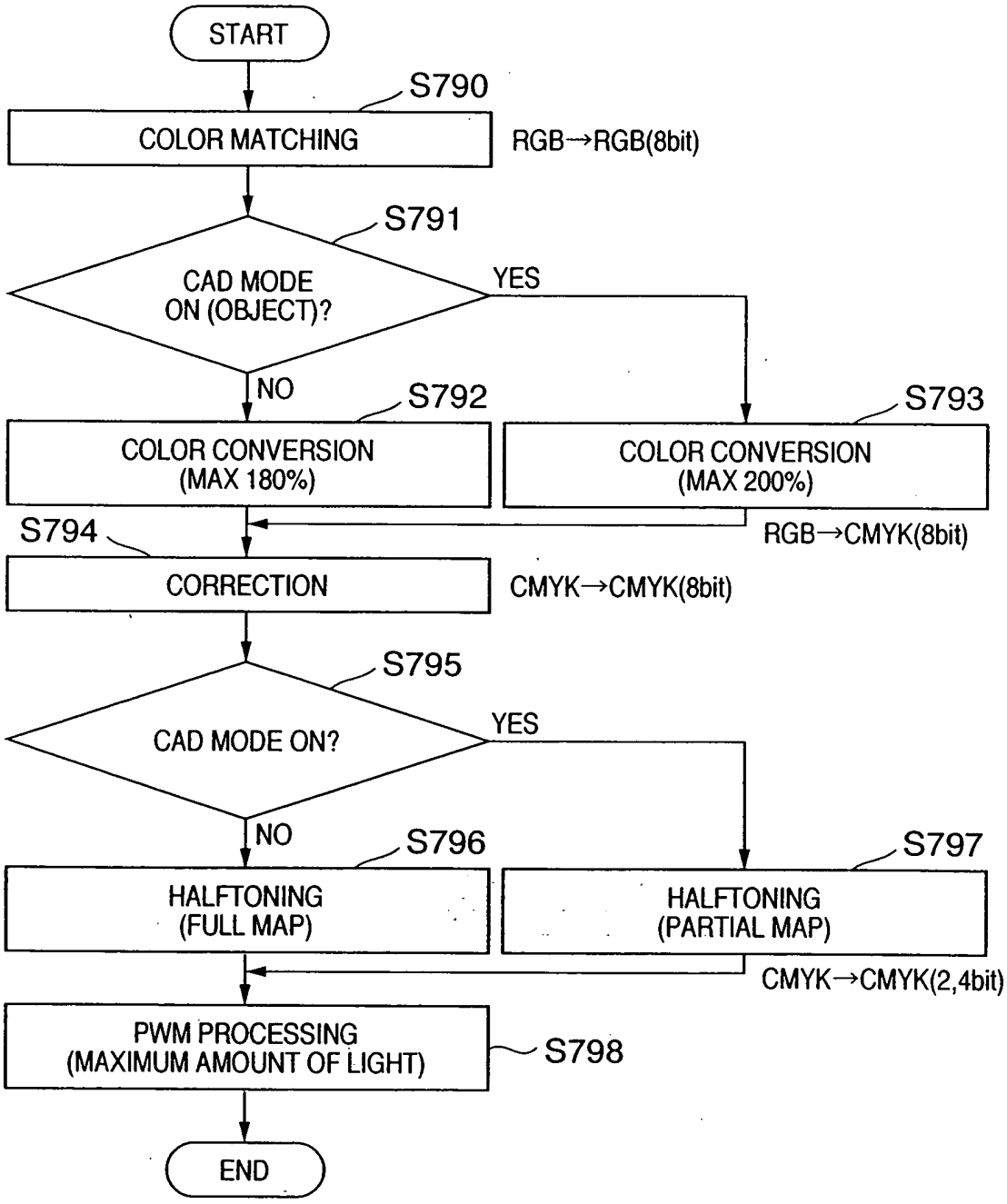

START
S780
COLOR MATCHING
RGB→RGB(8bit)
S781
CAD MODE ON (PAGE)?
YES
NO
S782
COLOR CONVERSION (MAX 180%)
S783
COLOR CONVERSION (MAX 200%)
RGB→CMYK(8bit)
S784
CORRECTION
CMYK→CMYK(8bit)
S785
HALFTONING
CMYK→CMYK(2,4bit)
CMYK(2bit) PWM PROCESSING
S786
CAD MODE ON (PAGE)?
YES
NO
S788
PWM PROCESSING (MAXIMUM AMOUNT OF LIGHT)
S787
PWM PROCESSING (REDUCE AMOUNT OF LIGHT)
END

FIG. 17C


START
S790
COLOR MATCHING
RGB→RGB(8bit)
S791
CAD MODE ON (OBJECT)?
YES
NO
S792
COLOR CONVERSION (MAX 180%)
S793
COLOR CONVERSION (MAX 200%)
RGB→CMYK(8bit)
S794
CORRECTION
CMYK→CMYK(8bit)
S795
CAD MODE ON?
YES
NO
S796
HALFTONING (FULL MAP)
S797
HALFTONING (PARTIAL MAP)
CMYK→CMYK(2,4bit)
PWM PROCESSING (MAXIMUM AMOUNT OF LIGHT)
S798
END